

1. (Cancelled)

2. (Currently Amended) The method of claim 8, 1, wherein the polymer is from the group comprising a polyimide and a polystyrene.

3. (Currently Amended) The method of claim 8, 1, wherein the polymer layer is applied to the surface in previously defined regions.

4. (Currently Amended) The method of claim 8, 1, wherein an electric charge is imparted to the surface of the polymer layer, at least in sectional fashion, by plasma treatment.

5. (Currently Amended) The method of claim 8, 1, wherein UV-reactive molecules are covalently immobilized by irradiation with UV light.

6. (Currently Amended) The method of claim 8, 1, wherein the polymer layer is activated, at least in sectional fashion, in an oxygen plasma.

7. (Currently Amended) The method of claim 8, 1, wherein a portion of the surface of the polymer layer is utilized for application with an integrated circuit.

8. (Previously Presented) A method for immobilizing molecules on a surface, comprising the steps of applying a layer of a hydrophobic polymer to the surface, and immobilizing molecules on a

surface of the layer.

9. (Previously Presented)     The method of claim 8, where the polymer is a polyimide.
10. (Previously Presented)    The method of claim 8, where the polymer is a polystyrene.
11. (Previously Presented)    The method of claim 8, further comprising the steps of forming at least one defined region on the surface, and applying the layer of a hydrophobic polymer to the at least one defined region on the surface.
12. (Previously Presented)    The method of claim 8, where the polymer layer is activated in an oxygen plasma.
13. (Previously Presented)    The method of claim 8, where UV-reactive molecules are covalently immobilized by irradiation with UV light.
14. (Previously Presented)    The method of claim 8, where an electric charge is imparted to the surface of the polymer layer by plasma treatment.
15. (Previously Presented)    The method of claim 8, where the molecules are biomolecules.
16. (Previously Presented)    The method of claim 8, where the polymer comprises a non-swelling polymer.

17. (Previously Presented) The method of claim 8, where the surface to which the polymer layer is applied may comprise an inorganic material.

18. (Previously Presented) The method of claim 17, where the inorganic material is a semiconductor material.

19. (Previously Presented) The method of claim 18, where the semiconductor material comprises silicon.

20. (Previously Presented) The method of claim 17, where the inorganic material is a semiconducting oxide.

21. (New) The method of claim 8, where the step of immobilizing molecules on a surface of the layer comprises immobilizing molecules on the surface of a support in which electrical sensors and processor circuits are integrated.